



September 30, 2002

VIA ELECTRONIC FILING

Alan Scrim
Chief, Policy and Rules Division
Office of Engineering and Technology
Federal Communications Commission

**Re: Written *Ex Parte* Presentation, ET Docket No. 02-135, RM-10371:
Unlicensed Spectrum: Market Research and the New “Anything
Goes” Unlicensed Spectrum Band; WECA Petition For Rulemaking
Seeking Allocation of 5.470-5.725 GHz to Unlicensed National
Information Infrastructure (“U-NII”) Devices;**

Dear Mr. Scrim:

Thank you for meeting with representatives of the Consumer Electronics Association (“CEA”) on August 15, 2002. This letter represents a follow-up to that meeting. We are pleased to provide you with market data on products currently being utilized on a licensed by rule, non-interference basis pursuant to the Commission’s Part 15 rules, hereafter referred to as unlicensed products. We also provide some initial feedback about a new “anything goes” unlicensed spectrum band proposal, as well as present our support for the petition filed by the Wireless Ethernet Compatibility Alliance (“WECA”) for additional spectrum at 5 GHz for unlicensed use.

I. Market Data on Unlicensed Products

The success of the Commission’s Part 15 rules is underscored by the tremendous variety of products available under these rules. The diversity is so great, indeed, that no single organization tracks data for the entire market. Since many consumer electronics products operate under these rules, CEA undertook to categorize and collect data on penetration and dollar and unit volumes of sales for certain product categories.

A conservative estimate of the installed base of unlicensed consumer products is approximately 350 million, or more than one product per U.S. citizen. This estimate is based on the following product categories: cordless phones, garage door openers, remote control toys, walkie-talkies (not FRS), baby monitors, home security systems, and keyless entry systems for cars. The expected year 2002 market value of cordless phones, wireless vehicle security systems, and wireless home networking is \$2.2 billion. Including commercial wireless LAN and Bluetooth projections makes an even greater impression, with InStat predicting that 2006 WLAN dollar volume in the U.S. will be \$2.4 billion and Bluetooth chipset sales worldwide will reach \$2.7 billion.

The progression of cordless phone sales provides a good lesson in the life-cycle of regulations and products. In 1980, a mere 500,000 cordless phones were sold in the U.S., and penetration was virtually zero. Over the last two decades, sales have steadily increased to 36 million units per year and more than 80% household penetration. Attaining the combination of available unlicensed spectrum and the right technology and products takes time. The FCC and industry together need to provision for new unlicensed spectrum well in advance of overcrowding and obvious need. Supporting market research data is provided in Appendix A.

II. New “Anything Goes” Band for Unlicensed Spectrum Proposal

Much of the discussion at our August 15 meeting involved a proposal to develop a new “anything goes” unlicensed spectrum band. CEA would like to take this opportunity to provide some initial feedback about the potential uses for such spectrum and how this approach could be implemented.

As outlined above and as stated in our comments and reply comments, CEA believes that the demand for unlicensed spectrum will continue to increase, especially as progress in digital rights management and corresponding delivery technologies make possible a higher level of proliferation of media-rich content. CEA projects that this demand will manifest itself not only in “last 100 yards” connections to public data networks and the Internet, but also in device-to-device connections in the home, schools, and libraries, and in the “hot spot” environment that typifies the deployment of wireless networks. CEA also anticipates that a high-density, content-rich wireless media environment, accessible by a variety of devices including PCs and consumer electronics products, and structured by home-by-home and “hot spot” deployment, will become a widespread phenomenon in the next several years. This deployment of technology will in turn fuel demand for and promote the deployment of broadband communications services and facilitate sharing of media-rich signals in the home. Unlicensed access to spectrum is the key to this progress.

CEA does not propose any changes at this time to the Commission’s rules that currently apply to unlicensed operations in the 900 MHz, 2.4 GHz, and 5 GHz U-NII bands. (CEA’s position regarding additional spectrum for U-NII use at 5 GHz is discussed below.) For unlicensed operations in “new” spectrum, however, CEA suggests that for innovation to flourish and for this so-called “anything goes” proposal to be successful, the Commission’s regulatory approach should entail the least number of requirements around which there is industry consensus. The Commission’s task should be two-fold: (1) to maintain maximum flexibility to reduce barriers to entry and promote innovation by new entrants; and (2) to find ways to avoid the “tragedy of the commons” that can manifest itself through “spectrum hogging” and the deployment of devices that use spectrum inefficiently. While there is tension between these two tasks, this tension simply necessitates a cautious approach toward creating new regulatory requirements. The power limitations approach of Part 15 is a good starting point. Where industry consensus is readily achievable, additional interference mitigation techniques, such as Dynamic Frequency Selection (“DFS”) and Transmit Power Control (“TPC”), could be embodied in Commission regulations. Such appears to be the situation evolving for the additional 5 GHz spectrum that is the object of the WECA petition.

For the Commission's rules to reflect industry consensus, the Commission must continue its normal information-gathering processes of industry fora, *en banc* hearings, and inquiry proceedings. One suggested approach that CEA does not advocate at this time is the possibility of creating a standing advisory committee on unlicensed wireless deployment. While this approach would provide a permanent forum for monitoring and evaluating developments and problems in unlicensed products, standards, and operations, CEA is concerned the formation of and representation within such a group could be problematic. One potential pitfall of the advisory committee approach is the over-representation of well-funded incumbents, who could recommend regulatory solutions that would work to the detriment of new-entrant innovators. The administrative convenience of an advisory committee framework is also a matter of question. The Commission should consider this possibility only if its normal information-gathering processes are deemed inadequate and if the pitfalls noted above can be avoided.

CEA applauds and promotes consideration of novel approaches to new spectrum availability for unlicensed devices, as discussed in our meeting. As OET staff is well aware, the time from consideration of new spectrum to product availability making use of that spectrum is measured in years. Proactive, anticipatory allocation, as is being discussed, is required to maintain a smooth roadmap of innovation and new products and services. Finally, CEA encourages the direction of placing fewer technical requirements in the governing regulations and allowing market forces to guide technology. Where more efficient use of the spectrum or protection of existing uses is required, the Commission should also explore a variety of spectrum management techniques or spectrum etiquettes designed to optimize spectrum usage. CE manufacturers are highly motivated by the reduced risk and rapid market expansion associated with communications based on sound industry standards. Winning technologies that increase efficiency, lower cost, and improve performance naturally find their way into the market.

III. Support for the WECA 5 GHz Petition

CEA strongly supports WECA's Petition for Rulemaking seeking the allocation of 5.470-5.725 GHz to Unlicensed National Information Infrastructure ("U-NII") Devices and urges the Commission to institute a proceeding for the allocation of 5.470 – 5.725 GHz for U-NII devices.

WECA's proposal, which is widely supported by a number of parties, reflects the increased demand for broadband wireless services and the need for additional spectrum to more fully utilize these new wireless broadband technologies in the United States. The already increased use of wireless devices utilizing the 5 GHz band puts unsustainable pressure on the current capacity and capability of the already allocated spectrum. The proposed allocation will allow for higher throughput rates, additional flexibility and lower costs. The extensive demands for mobile broadband access will be met and educational institutions, healthcare providers, businesses and manufacturers will be able to more fully utilize the new technologies, which will be more dependable and economical than what it currently available. With the allocation of additional spectrum in the 5 GHz band, broadband deployment will be achieved much faster than with traditional broadband networks.

We believe that the requested allocation will not create harmful interference to the incumbent users. The WECA proposal to apply the existing U-NII rules governing unlicensed usage at

5.250-5.350 GHz to the new band has wide industry support based on the record. In addition, new techniques have been built into the devices that further mitigate the chances of interference. For example, several mitigation techniques are currently being used for optimized use of available frequency channels, like Dynamic Frequency Selection ("DSF") and Transmit Power Control ("TPC"). DSF is currently under consideration for inclusion in newly developed standards by IEEE's 802 Committee and at the ITU-R meetings as part of a global harmonization effort, and has been adopted as part of the ETSI-BRAN in Europe.

We hope that the foregoing discussion is responsive to some of the questions that were raised in our August 15 meeting. We hope to continue this important dialogue.

Please contact a CEA representative if you have any questions.

Sincerely,

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Attachment